

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for controlling an optical power level, comprising the steps of:

a) ~~regularly~~ increasing a control value of a driving signal generator for driving a pickup unit ~~adapted to~~ output an optical power;

b) checking whether a driving signal voltage of the driving signal generator is generated by the driving signal generator according to based on the increasing increased control value; and

c) setting ~~a~~ the increased control value at which the driving signal generator starts to generate the driving signal voltage ~~begins to be generated as an offset value for setting up an a~~ desired optical power of the pickup unit.

2. (Currently Amended) The method as set forth in claim 1, wherein the driving signal voltage of the driving signal generator is applied to a laser diode of the pickup unit, and a magnitude of the optical power is determined by a level of the driving signal voltage.

3. (Original) The method as set forth in claim 1, wherein the offset value is stored in a nonvolatile memory.

4. (Currently Amended) The method as set forth in claim 1, wherein the offset value is determined when an optical disc apparatus ~~to which the method as set forth in claim 1 will be applied~~ is initially driven.

5. (Currently Amended) The method as set forth in claim 1, wherein the step (c) includes the steps of:

c1) determining ~~a~~the control value at which the driving ~~signal-voltage~~ of the driving signal generator reaches a predetermined ~~signal-voltage~~ level; and

c2) subtracting a predetermined value from the determined control value, and setting the subtracted result value as the offset value.

6. (Currently Amended) The method as set forth in claim 5, wherein the predetermined ~~signal-voltage~~ level is within a threshold area of the driving ~~signal-voltage~~ of the driving signal generator.

7. (Currently Amended) The method as set forth in claim 1, further comprising the step of:

d) calculating a control value for generating ~~a driving signal~~the desired optical power of the pickup unit ~~on the basis of~~based on the offset value.

8. (Currently Amended) The method as set forth in claim 7, wherein the step (d) includes the steps of:

d1) ~~applying a predetermined control value and measuring a driving signal level of the driving signal generator~~a corresponding optical power of the pickup unit in response to a predetermined control value; and

d2) calculating ~~a~~the control value for generating ~~a specific driving signal level~~the desired optical power based on the predetermined control value, the measured ~~driving signal level~~optical power in responsecorresponding to the predetermined control value, and the offset value.

9. (Currently Amended) The method as set forth in claim 8, wherein the control value for generating the ~~specified~~desired ~~driving signal level~~ optical power in the step (d2) is calculated by the following equation:

$$DAC_{DSL} = DAC_{offset} + \frac{DSL}{DSL_1} \times (DAC_1 - DAC_{offset}),$$

where DSL is ~~a driving signal level of the driving signal generator applied to the laser diode~~the desired optical power, DAC_{DSL} is ~~a the~~ the control value for generating a value of DSLthe desired optical power, DAC_{offset} is ~~an the~~ the offset value, DAC_1 is ~~a the~~ the predetermined control value, and DSL_1 is ~~a driving signal level in response to a value of the measured optical power corresponding to~~ DAC_1 .

10. (Currently Amended) The method as set forth in claim 7, wherein ~~a the~~ the control value for generating ~~a predetermined driving signal level~~ the desired optical power is previously stored in a nonvolatile memory in the form of a difference between the control value and an offset value for setting up ~~an the desired~~ optical power.

11. (Currently Amended) The method as set forth in claim 10, wherein the step (d) comprises the step of:

d3) calculating ~~a the~~ the control value for generating a specific driving signal levelthe desired optical power based on the offset value determined at step (c) and the difference stored in the nonvolatile memory.

12. (Currently Amended) The method as set forth in claim 10, wherein the ~~predetermined driving signal level~~ desired optical power is a ~~pickup driving signal level for generating a specific optical power value~~ used for either one of a data recording mode, a data playback mode, and a disc discrimination mode.

13. (New) A method for controlling an optical power level, comprising the steps of:

a) regularly increasing a control value of a driving signal generator for driving a pickup unit adapted to output an optical power;

b) checking a driving signal of the driving signal generator according to the increasing control value; and

c) setting a control value at which the driving signal begins to be generated as an offset value for setting up an optical power; and

d) calculating a control value for generating a driving signal of the pickup unit on the basis of the offset value, wherein a control value for generating a predetermined driving signal level is previously stored in a nonvolatile memory in the form of a difference between the control value and an offset value for setting up an optical power.